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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,979

03/14/2005

Jurgen Osterlanger

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EXAMINER

JOHNSON, MATTHEW A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,979	Applicant(s) OSTERLANGER ET AL.	
	Examiner MATTHEW JOHNSON	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/14/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in the paragraph beginning at page 8, line 9 (amended), the phrase "deflecting pieces 2" should read -- deflecting pieces 8 --. The examiner requests that Applicant carefully inspect the entire specification for similar errors.

Appropriate correction is required.

Claim Objections

2. Claim 5 is objected to because of the following informalities: in line 4, the phrase "the ball" is redundant and should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Re clm 1: Regarding the phrase, "balls arranged such that they can roll in the thread path", the term "can" makes it unclear if the limitation is a requirement of the claim.

6. Re clm 6: The phrase "wherein there is a clear distance between the two free ends..." is unclear rendering the claim indefinite. What is a "clear distance"? Does Applicant mean clearance?
7. Claim 7 recites the limitation "the ball guiding surfaces" in line 2. There is insufficient antecedent basis for this limitation in the claim.
8. Re clm 10: Use of the phrase, "in particular" makes it unclear if a "thermoplastic material" is being positively recited.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dolata et al. (USP-5,555,770).

Re clm 1: Dolata discloses a ball screw comprising:

- A spindle (10); a first thread groove (12) on the spindle
- A spindle nut (13) arranged on the spindle, a second thread groove (15) formed in the spindle nut, the first and second thread grooves being respectively shaped and positioned to together form a thread path (16)
- Balls (17) arranged such that they can roll in the thread path (C2 L50-52)

- A receptacle (20, 23) in the spindle nut and opening to the spindle
- At least one deflecting piece (25, 26) arranged in the receptacle of the spindle nut, the deflecting piece including a deflecting channel (30)
- A run-out end (19) and a run-in end (19) sharing at least one common turn of the thread path (Fig. 1)
- The deflecting piece (25, 26) is comprised of two partial deflecting pieces (25, 26), and is shaped such that a parting plane divides the deflecting channel longitudinally (Figs. 1-3)

Re clm 2: Dolata discloses the deflecting channel (30) is defined and bound by a base (25b, 26b) and two spaced apart side plates (near numerals 25 and 26, Figs. 1 and 2) attached to the base of the deflecting piece, one of the side plates being formed on the one partial deflecting piece and the other of the side plates being formed on the other partial deflecting piece.

Re clm 3: Dolata discloses the two partial deflecting pieces (25, 26) are captively connected to one another (via 37 and 25c, 25d interlocking with 26c, 26d).

Re clm 4: Dolata discloses the two partial deflecting pieces are formed point-symmetrically in a sectional plane arranged transversely to the parting plane, with respect to a point of symmetry lying in the parting plane (C3 L52-53).

Re clms 5 and 7: Dolata discloses each of the side plates is provided at its respective free end, facing the first thread groove (12) of the spindle, with a respective blade (29a), the deflecting piece engaging the ball guiding surfaces to lift the balls off the first thread groove of the spindle (C3 L14-25).

Re clm 6: Dolata discloses there is a clear distance between the two free ends of the side plates that is less than the ball diameter (Fig. 8).

Re clm 8: Dolata discloses each of the partial deflecting pieces (25, 26) is respectively provided with a hook (38c, 39c) and a hook receptacle (38, 39), the hook and the hook receptacle of each of the two partial deflecting pieces being respectively so placed and shaped that each hook hooks into the hook receptacle of the other deflecting piece so that the deflecting pieces hook in one another and grip one another (Figs. 2 and 3).

Re clm 9: Dolata discloses the hook (38c, 39c) is provided at one circumferential end of each partial deflecting piece and the hook receptacle (38, 39) is provided at an opposite, other circumferential end (Fig. 3).

Re clm 10: Dolata discloses each deflecting piece (25, 26) is produce from thermoplastic material (C3 L2-7). The examiner notes that the phrase "produced in particular from thermoplastic material by an injection-molded process" is a product-by-process limitation. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production (see MPEP 2113).

11. Claims 1-7, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Brusasco (USP-5,005,436).

Re clm 1: Brusasco discloses a ball screw comprising:

- A spindle (2); a first thread groove (3) on the spindle
- A spindle nut (5) arranged on the spindle, a second thread groove (6) formed in the spindle nut, the first and second thread grooves being respectively shaped and positioned to together form a thread path (8)
- Balls (7) arranged such that they can roll in the thread path (C3 L12-18)
- A receptacle (10) in the spindle nut and opening to the spindle
- At least one deflecting piece (18) arranged in the receptacle of the spindle nut, the deflecting piece including a deflecting channel (9)
- A run-out end and a run-in end (C3 L17) sharing at least one common turn of the thread path
- The deflecting piece (18) is comprised of two partial deflecting pieces (C3 L36-38), and is shaped such that a parting plane (17) divides the deflecting channel longitudinally (Figs. 3 and 4)

Re clm 2: Brusasco discloses the deflecting channel (9) is defined and bound by a base (15) and two spaced apart side plates (near numeral 18, Fig 3) attached to the base of the deflecting piece, one of the side plates being formed on the one partial deflecting piece and the other of the side plates being formed on the other partial deflecting piece.

Re clm 3: Brusasco discloses the two partial deflecting pieces (18) are captively connected to one another (via 20 and 21).

Re clm 4: Brusasco discloses the two partial deflecting pieces (18) are formed point-symmetrically in a sectional plane arranged transversely to the parting plane, with respect to a point of symmetry lying in the parting plane (Fig. 5).

Re clms 5 and 7: Brusasco discloses each of the side plates is provided at its respective free end, facing the first thread groove (3) of the spindle, with a respective blade (24, 25), the deflecting piece engaging the ball guiding surfaces to lift the balls (7) off the first thread groove (3) of the spindle (Fig. 3).

Re clm 6: Brusasco discloses there is a clear distance between the two free ends (between 24 and 25) of the side plates that is less than the ball diameter (Fig. 3).

Re clm 10: Brusasco discloses that it is known in the art to form the deflecting pieces from thermoplastic material (C1 L52-53). The examiner notes that the phrase "produced in particular from thermoplastic material by an injection-molded process" is a product-by-process limitation. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production (see MPEP 2113).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3682

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 11, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Brusasco (USP-5,005,436) in view of Hoogland (USP-7,178,311).

Re clm 11: Brusasco discloses all of the claimed subject matter as described above.

Brusasco does not disclose that the deflecting pieces are connected by a film hinge.

Hoogland teaches a film hinge (3, 5) connecting two members (2, 4) formed by an injection molding process for the purpose of ensuring that matching parts are not separated from eachother (C1 L45-50).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the partial deflecting pieces of Brusasco to include a film hinge connection, as taught by Hoogland, for the purpose of for the purpose of ensuring that matching parts are not separated from eachother (C1 L45-50).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW JOHNSON whose telephone number is (571)272-7944. The examiner can normally be reached on Monday - Friday 8:30a.m. - 5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. J./
Examiner, Art Unit 3682

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3682